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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/788,421	03/01/2004	John Gaughan	044499-0197	4963

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EXAMINER

LEJA, RONALD W

ART UNIT	PAPER NUMBER
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2836

DATE MAILED: 03/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/788,421

Applicant(s)

GAUGHAN, JOHN

Examiner

Ronald W. Leja

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on RCE of 3/1/2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,5-8,14 and 15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-8,14 and 15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

Claims 14 and 15 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The specific limitations added by Claims 14 and 15 already appear in Independent Claim 8, from which they depend.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 2, 5-8, 14 and 15 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Independent Claims 1, 2 and 8 each include *"the resistor having a constant resistance value that does not change with current supplied thereto or temperature of an environment in which the resistor is disposed"* and Claims 2 and 8 further include *"wherein the first and second transistors are maintained in an ON state irrespective as to an amount of current provided thereto"*.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2, 5-8, 14 and 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Independent Claim 2 and 8 each require that the first and second transistors are maintained in an ON state irrespective as to an amount of current provided thereto. This is not understood by the Examiner and in Applicant's Specification, on Page 3, paragraph [0014], it essentially states that "a very small base current is required through TR2 in order to operate", and as such, the transistors cannot be considered to be maintained in the ON state irrespective as to an amount of current provided thereto. Clarification is requested.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miller, Jr. (3,684,924) in view of "Another Darlington Pair Speed Control" by Howard Lloyd, 6/8/2002 (here-in-after referred to as Lloyd).

Miller, Jr. discloses a circuit in Figure 1 comprising a surge suppressing circuit having a diode (42) connected to the input of the surge suppressing circuit, first (66) and second (64) transistors arranged as a Darlington pair in series with the diode (42) and a resistor (76) connected to the base of the second transistor (64), but does not appear to disclose that the Darlington Pair is complementary and that the resistor has a constant resistance value which does not change with supplied current or

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temperature of the environment. However, Lloyd teaches a Darlington Pair having a complementary configuration. It would have been obvious to replace the Darlington pair of Miller, Jr. with the Darlington pair of Lloyd so as to take advantage of the reduced voltage drop across the "complementary Darlington Pair", thereby increasing efficiency. The same amount of current amplification can be achieved with one less V_{be} drop. As far as the details of the resistor value with respect to current and temperature, it is the opinion of the Examiner that to the extent that Applicant's resistor does not change due to current and temperature, the value of the resistance of the resistor of Miller, Jr. also does not change with respect to current and temperature.

Claims 2, 5-8, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson (4,576,135) in view of "Another Darlington Pair Speed Control" by Howard Lloyd, 6/8/2002 (here-in-after referred to as Lloyd).

Johnson discloses in Figure 2, a surge suppressing circuit having a diode (68) connected in series with the surge suppressing circuit, first and second transistors arranged as a Darlington Pair (66), a resistor (76) connected to the base of the second transistor and a zener diode (78) connected between the base of the second transistor and ground, but does not appear to disclose a Complementary Darlington Pair or that the diode (68) is connected to the input of the surge suppressing circuit. However, Lloyd teaches a Darlington Pair having a complementary configuration wherein the first transistor is a PNP and the second transistor is an NPN for Claim 8. It would have been obvious to replace the Darlington pair of Johnson with the Darlington pair of Lloyd so as to take advantage of the reduced voltage drop across the "complementary Darlington Pair", thereby increasing efficiency. The same amount of

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current amplification can be achieved with one less V_{be} drop. The diode (68) helps prevent a reverse current flow within the surge suppressing circuit and allows for current flow from the 60v line when voltage drops from the 12v line, thereby ensuring a regulated voltage on the VREG line. It would have been obvious to include a diode at the input of the surge suppressing circuit, so as to ensure no back current could flow into the 60v line, thereby increasing the reliability of the system. As far as the details of the resistor value with respect to current and temperature, it is the opinion of the Examiner, that to the extent that Applicant's resistor does not change due to current and temperature, the value of the resistance of the resistor of Johnson also does not change with respect to current and temperature. As far as the use of a capacitor for Claim 7, its use would have been obvious as a means to adjust response times to an overvoltage condition for the zener diode, thereby preventing any shunting for momentary overages, leading to smoother design operation.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ronald W. Leja whose telephone number is (571)272-2053. The examiner can normally be reached on Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (571)272-2800. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Ronald W Leja
Primary Examiner
Art Unit 2836

rwl
March 15, 2006

